

REMARKS

Claims 1 – 58 are pending in this re-issue application. Originally issued claims 1-19 have been allowed. Claims 20, 22-24, 27-29, 31-37, 40, 43-45, 47-53, and 56 have been rejected. The remaining claims have been objected to, but indicated as allowable subject matter. Applicant thanks Examiner for the thorough examination and the indication of allowable subject matter. Applicant responds to the claim rejections in the following paragraphs.

Rejection of claims 20, 22-24, 34-37, 40, 43-45, 47, 50-53, and 56

Claim 20 was rejected as being anticipated by U.S. Patent No. 6,156,485 issued to Tang, et al. ("Tang"). Claim 20 recites providing a hard mask layer and "providing a buffer layer above said hard mask layer." Applicant respectfully submits that Tang fails to teach or suggest such a "buffer layer" as recited in claim 20. Oxide layer 140 of Tang is not a "buffer layer" because Tang specifically refers to this layer as the hard mask. Likewise, anti-reflective coating layer 130 is not a "buffer layer" because claim 20 specifically requires that the "buffer layer" be above the hard mask. Tang clearly does not provide such a teaching. Claim 20 is hence patentably distinct over Tang. Claims 22-24, which were also rejected under Tang, are also allowable over Tang by virtue of their dependency from claim 20 as well as for their respective further defining recitations.

Claim 34, which was also rejected as being anticipated by Tang, also recites a "buffer layer," which is formed on the hard mask layer. Again, Tang fails to teach or suggest such a buffer layer. For at least this reason, claim 34 is allowable over Tang. Claims 35-37, 40, and 43-44, which were rejected under Tang are also allowable by

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virtue of their dependence from claim 34 as well as for their further respective defining recitations.

Claim 45 recites, e.g., "stripping away said resist mask using a first chemistry" and "removing polymer residue using a second chemistry different from the first chemistry." Examiner has failed to identify, and Applicant is unaware of, any teaching or suggestion of this combination of claim elements in Tang. As such, claim 45, and by virtue of dependence, claim 47, is allowable over Tang.

Claim 50 also recites "a buffer layer formed on said hard mask layer." This claim limitation is not disclosed or suggested by Tang. Claim 50 is hence allowable over Tang, as are claims 51-53 and 56 by virtue of their dependency from claim 50 as well as their respective further defining recitations.

Rejection of claims 27, 31, and 45

Claim 27 and claim 31, which depends therefrom, were rejected as being anticipated by U.S Patent 5,346,586 issued to Keller ("Keller"). Claim 27 as amended recites a two step process that includes "stripping away said resist mask in a first process step," and "removing polymer residue resulting from said stripping step in a second process step." Applicant respectfully submits that Keller nowhere teaches or suggests this combination of claim limitations. Examiner has identified that Keller teaches removing the resist etch mask *in-situ* using an O₃ based plasma. Keller fails to teach, however, an additional process step of removing polymer residue as recited in claim 27, and by dependency in claim 31. For at least this reason, claims 27 and 31 are patentably distinct over Keller and should be allowed.

Claim 45, as amended, recites “stripping away said resist mask using a first chemistry” and further “thereafter removing polymer residue using a second chemistry different from the first chemistry.” While Keller may disclose removing a resist etch mask *in-situ*, Keller fails to teach or suggest the combination of the two above recited claim limitations. Hence, claim 45 should also be allowed over Keller.

Rejection of claims 28-29, 32, and 48

Claims 28-29, 32 and 48 were rejected as being unpatentable over Keller in view of U.S. Patent No. 5,382,316 to Hills, et al. (“Hills”). These claims depend from claim 27, which as stated above, recites a two-step process for stripping away the photoresist layer, then cleaning away any polymer residue. Neither Keller nor Hills, nor their combination, teaches such a two-step process. For at least this reason, claims 28-29 and 32 are allowable over the combination of Keller and Hills. Likewise, claim 48 depends from claim 45, which recites stripping the resist mask using a first chemistry and removing polymer residue using a second chemistry. Neither Keller nor Hills, nor their combination, provide a teaching or suggestion of this combination of process steps.

Rejection of claims 33 and 49

Claims 33 and 49 were rejected as being unpatentable over Keller in view of Hill and further in view of U.S. Patent No. 5,976,769 issued to Chapman (“Chapman”). As an initial matter, Applicant respectfully traverses the rejection on the grounds that Examiner has failed to establish a *prima facie* showing that the references provide motivation for their combination. Furthermore, Chapman fails to overcome the deficiency discussed

above with regard to the combination of Keller and Hills. Even assuming for the sake of argument that a combination of these three references is proper, nothing in the combination teaches or suggests the two-step process of claim 27 (from which claim 33 depends) and combination of process steps recited in claim 45 (from which claim 49 depends). As such, claims 33 and 49 are allowable over the references.

In view of the above amendments and remarks, applicant respectfully submits that all of Examiner's rejections to the claims have been traversed and/or overcome and that claims 1-58 are in condition for allowance. A prompt passage of the present application to re-issuance is earnestly requested. Examiner is invited to contact the undersigned with any comments or questions that might advance prosecution of this matter.

Respectfully submitted,



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